Please enter the following new claims:

126 26 1. (New) A method of reducing antigen-stimulated IgE production in a mammal sensitized to the antigen, the method comprising administering to the mammal an immunostimulatory polynucleotide (ISS-PN), wherein the ISS-PN:

(a) comprises the sequence 5'-cytosine, guanine-3'; and,

(b) is administered in an amount sufficient to reduce antigen-stimulated IgE production in the mammal.

27 2. (New) The method of claim 1, further comprising co-administering the antigen to the mammal.

28 3. (New) The method of claim 2, wherein the antigen is administered in the form of a polynucleotide encoding the antigen, and wherein further the polynucleotide is expressed in the mammal.

29 4. (New) The method of claim 3, wherein the polynucleotide is a part of the ISS-PN.

30 5. (New) The method of claim 2, wherein the antigen is administered in the form of a polypeptide.

31 6. (New) The method of claim 1, further comprising co-administering to the mammal an antigen fragment containing an immunogenic epitope of the antigen.

32 7. (New) The method of claim 6, wherein the antigen fragment is administered in the form of a polynucleotide encoding the antigen fragment, and wherein further the polynucleotide is expressed in the mammal.

33 8. (New) The method of claim 7, wherein the polynucleotide is a part of the ISS-PN.

34 9. (New) The method of claim 6, wherein the antigen fragment is administered in the form of a polypeptide.

35 10. (New) The method of claim 1, wherein the IgE production is threatened or occurs with the onset of an allergic attack in the mammal.

36 11. (New) The method of claim 1, wherein IgE production is is threatened or occurs with the onset of an asthma attack in the mammal.

37-12. (New) The method of claim 1, wherein the ISS-PN comprises a palindromic region, wherein further the palindromic region comprises the sequence 5'-cytosine, guanine-3'.

38-13. (New) The method of claim 12 wherein the palindromic region is at least 6 nucleotides in length.

39-14. (New) The method of claim 13, wherein the palindromic region comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine-3'.

40-15. (New) The method of claim 13, wherein the palindromic region comprises the sequence 5'-pyrimidine, pyrimidine, C, G, pyrimidine, pyrimidine-3'.

41-16. (New) The method of claim 1, wherein the ISS-PN comprises a sequence selected from the group consisting of AGCGTC, GACGTT, GGCGTT, AACGTC, AGCGTC, GACGTC, GGCGTC, AACGCC, AGCGCC, GACGCC, GGCGCC, AGCGCT, GACGCT, GGCGCT, TTCGAA, GGCGTT and AACGCC.

42-17. (New) The method of claim 1, wherein the ISS-PN administered to the mammal is a plasmid.

43-18. (New) The method of claim 1, wherein the ISS-PN administered to the mammal is a cosmid.

44-19. (New) The method of claim 1, wherein the ISS-PN administered to the mammal is administered to skin or mucosa.

45-20. (New) The method of claim 1, wherein the ISS-PN administered to the mammal is administered to muscle.

46-21. (New) The method of claim 1, wherein the mammal is a human.

47-22. (New) A method for treating an antigen-stimulated IgE-related disorder in a mammal sensitized to the antigen comprising administering to the mammal an immunostimulatory polynucleotide (ISS-PN), wherein the ISS-PN:

(a) comprises the sequence 5'-cytosine, guanine-3'; and,

(b) is administered in an amount sufficient to reduce antigen-stimulated IgE production in the mammal.

48-23. (New) The method of claim 22, further comprising co-administering the antigen to the mammal.

49 ~~24~~. (New) The method of claim 23, wherein the antigen is administered in the form of a polynucleotide encoding the antigen, and wherein further the polynucleotide is expressed in the mammal.

50 ~~25~~. (New) The method of claim 24, wherein the polynucleotide is a part of the ISS-PN.

51 ~~26~~. (New) The method of claim 23, wherein the antigen is administered in the form of a polypeptide.

52 ~~27~~. (New) The method of claim 22, further comprising co-administering an antigen fragment containing an immunogenic epitope of the antigen.

53 ~~28~~. (New) The method of claim 27, wherein the antigen fragment is administered in the form of a polynucleotide encoding the antigen fragment, and wherein further the polynucleotide is expressed in the mammal.

54 ~~29~~. (New) The method of claim 28, wherein the polynucleotide is a part of the ISS-PN.

55 ~~30~~. (New) The method of claim 27, wherein the antigen fragment is administered in the form of a polypeptide.

56 ~~31~~. (New) The method of claim 22, wherein the IgE-related disorder is allergy.

57 ~~32~~. (New) The method of claim 22, wherein the IgE-related disorder is asthma.

58 ~~33~~. (New) The method of claim 22, wherein the ISS-PN comprises a palindromic region, wherein further the palindromic region comprises the sequence 5'-cytosine, guanine-3'.

59 ~~34~~. (New) The method of claim 33 wherein the palindromic region is at least 6 nucleotides in length.

60 ~~35~~. (New) The method of claim 33, wherein the palindromic region comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine-3'.

61 ~~36~~. (New) The method of claim 33, wherein the palindromic region comprises the sequence 5'-pyrimidine, pyrimidine, C, G, pyrimidine, pyrimidine-3'.

62 ~~37~~. (New) The method of claim 22, wherein the ISS-PN comprises a sequence selected from the group consisting of AGCGTC, GACGTT, GGCGTT, AACGTC, AGCGTC, GACGTC, GGCGTC, AACGCC, AGCGCC, GACGCC, GGCGCC, AGCGCT, GACGCT, GGCGCT, TTCGAA, GGCGTT and AACGCC.

63 38. (New) The method of claim 22, wherein the ISS-PN administered to the mammal is a plasmid.

64 39. (New) The method of claim 22, wherein the ISS-PN administered to the mammal is a cosmid.

65 40. (New) The method of claim 22, wherein the ISS-PN administered to the mammal is administered to skin or mucosa.

66 41. (New) The method of claim 22, wherein the ISS-PN administered to the mammal is administered to muscle.

67 42. (New) The method of claim 22, wherein the mammal is a human.

68 43. (New) A method for stimulating production of antigen-responsive Th1 lymphocytes in a mammal sensitized to the antigen, the method comprising administering to the mammal an immunostimulatory polynucleotide (ISS-PN), wherein the ISS-PN:

(a) comprises the sequence 5'-cytosine, guanine-3'; and,

(b) is administered in an amount sufficient to reduce antigen-stimulated IgE production in the mammal.

69 44. (New) The method of claim 43, further comprising co-administering the antigen to the mammal.

70 45. (New) The method of claim 44, wherein the antigen is administered in the form of a polynucleotide encoding the antigen, and wherein further the polynucleotide is expressed in the mammal.

71 46. (New) The method of claim 45, wherein the polynucleotide is a part of the ISS-PN.

72 47. (New) The method of claim 44, wherein the antigen is administered in the form of a polypeptide.

73 48. (New) The method of claim 43, further comprising co-administering to the mammal an antigen fragment containing an immunogenic epitope of the antigen.

74 49. (New) The method of claim 48, wherein the antigen fragment is administered in the form of a polynucleotide encoding the antigen fragment, and wherein further the polynucleotide is expressed in the mammal.

75 50. (New) The method of claim 49, wherein the polynucleotide is a part of the ISS-PN.

A2 cont

76 51. (New) The method of claim 48, wherein the antigen fragment is administered in the form of a polypeptide.

77 52. (New) The method of claim 43, wherein the mammal is suffering from allergy to the antigen, and wherein further the stimulation of antigen-responsive Th1 lymphocytes in the mammal has an immunostimulatory effect on the mammal's immune responsiveness to the antigen.

78 53. (New) The method of claim 43, wherein the mammal is suffering from antigen-related asthma, and wherein further the stimulation of antigen-responsive Th1 lymphocytes in the mammal has an immunostimulatory effect on the mammal's immune responsiveness to the antigen.

79 54. (New) The method of claim 43, wherein the ISS-PN comprises a palindromic region, wherein further the palindromic region comprises the sequence 5'-cytosine, guanine-3'.

80 55. (New) The method of claim 54 wherein the palindromic region is at least 6 nucleotides in length.

81 56. (New) The method of claim 55, wherein the palindromic region comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine-3'.

82 57. (New) The method of claim 55, wherein the palindromic region comprises the sequence 5'-pyrimidine, pyrimidine, C, G, pyrimidine, pyrimidine-3'.

83 58. (New) The method of claim 43, wherein the ISS-PN comprises a sequence selected from the group consisting of AGCGTC, GACGTT, GGCGTT, AACGTC, AGCGTC, GACGTC, GGCGTC, AACGCC, AGCGCC, GACGCC, GGCGCC, AGCGCT, GACGCT, GGCGCT, TTCGAA, GGCGTT and AACGCC.

84 59. (New) The method of claim 42, wherein the ISS-PN administered to the mammal is a plasmid.

85 60. (New) The method of claim 43, wherein the ISS-PN administered to the mammal is a cosmid.

86 61. (New) The method of claim 43, wherein the ISS-PN administered to the mammal is administered to skin or mucosa.

87 62. (New) The method of claim 43, wherein the ISS-PN administered to the mammal is administered to muscle.

88 63. (New) The method of claim 43, wherein the mammal is a human.

89 ~~64~~. (New) A method for suppressing production of antigen-responsive Th2 lymphocytes in a mammal sensitized to the antigen, the method comprising administering to the mammal an immunostimulatory polynucleotide (ISS-PN), wherein the ISS-PN:

126 ~~(a)~~ comprises the sequence 5'-cytosine, guanine-3'; and,

~~(b)~~ is administered in an amount sufficient to reduce antigen-stimulated IgE production in the mammal.

90 ~~65~~. (New) The method of claim 64, further comprising co-administering the antigen to the mammal.

91 ~~66~~. (New) The method of claim 65, wherein the antigen is administered in the form of a polynucleotide encoding the antigen, and wherein further the polynucleotide is expressed in the mammal.

92 ~~67~~. (New) The method of claim 66, wherein the polynucleotide is a part of the ISS-PN.

93 ~~68~~. (New) The method of claim 65, wherein the antigen is administered in the form of a polypeptide.

94 ~~69~~. (New) The method of claim 64, further comprising co-administering to the mammal an antigen fragment containing an immunogenic epitope of the antigen.

95 ~~70~~. (New) The method of claim 69, wherein the antigen fragment is administered in the form of a polynucleotide encoding the antigen fragment, and wherein further the polynucleotide is expressed in the mammal.

96 ~~71~~. (New) The method of claim 70, wherein the polynucleotide is a part of the ISS-PN.

97 ~~72~~. (New) The method of claim 69, wherein the antigen fragment is administered in the form of a polypeptide.

98 ~~73~~. (New) The method of claim 64, wherein the mammal is suffering from allergy to the antigen, and wherein further the suppression of antigen-responsive Th2 lymphocytes reduces antigen-stimulated IgE production in the mammal.

99 ~~74~~. (New) The method of claim 64, wherein the mammal is suffering from antigen-related asthma, and wherein further the suppression of antigen-responsive Th2 lymphocytes reduces antigen-stimulated IgE production in the mammal

100 ~~75~~. (New) The method of claim 64, wherein the ISS-PN comprises a palindromic region, wherein further the palindromic region comprises the sequence 5'-cytosine, guanine-3'.

101 76. (New) The method of claim 75 wherein the palindromic region is at least 6 nucleotides in length.

102 77. (New) The method of claim 76, wherein the palindromic region comprises the sequence 5'-purine, purine, C, G, pyrimidine, pyrimidine-3'.

103 78. (New) The method of claim 76, wherein the palindromic region comprises the sequence 5'-pyrimidine, pyrimidine, C, G, pyrimidine, pyrimidine-3'.

104 79. (New) The method of claim 64, wherein the ISS-PN comprises a sequence selected from the group consisting of AGCGTC, GACGTT, GGCGTT, AACGTC, AGCGTC, GACGTC, GGCGTC, AACGCC, AGCGCC, GACGCC, GGCGCC, AGCGCT, GACGCT, GGCGCT, TTCGAA, GGCGTT and AACGCC.

105 80. (New) The method of claim 64, wherein the ISS-PN administered to the mammal is a plasmid.

106 81. (New) The method of claim 64, wherein the ISS-PN administered to the mammal is a cosmid.

107 82. (New) The method of claim 64, wherein the ISS-PN administered to the mammal is administered to skin or mucosa.

108 83. (New) The method of claim 64, wherein the ISS-PN administered to the mammal is administered to muscle.

109 123 84. (New) The method of claim 64, wherein the mammal is a human.